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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/663,777	09/18/2000	Darren Kerr	112025-0197	4077

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CESARI AND MCKENNA, LLP
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BOSTON, MA 02210

EXAMINER

STEVENS, ROBERTA A

ART UNIT	PAPER NUMBER
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2665

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DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/663,777

Applicant(s)

KERR ET AL.

Examiner

Roberta A Stevens

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11-19 and 21 is/are rejected.
- 7) ☒ Claim(s) 9, 10 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1. Claims 1, 2, 4-7, 11-16, 18 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Wu (U.S. 6151644).
2. Regarding claim 1, Wu teaches (col. 1, line 58 – col. 2, line 14) a method for striping packets across pipelines of processing engine within a network switch, the processing engine having a plurality of processors arrayed as pipeline rows and columns embedded between input output buffer (fig. 2), each pipeline row including a context memory, comprising: organizing the context memory as a plurality of window buffers of a defined size (col.1 lines 58-61); apportioning each packet into contexts corresponding to the defined size associated with each window buffer (col. 1 lines 61-66); and correlating each context with a relative position within the packet to thereby facilitate reassembly of the packet at the output buffer, while obviating out-of-order issues involving the contexts of the packet (col. 1 line 66- col. 2, line 14).
3. Regarding claims 2 and 12, Wu teaches (figure 2) organizing the processors and context memory of each pipeline row as a cluster.
4. Regarding claims 4, 13 and 18, Wu teaches (col. 5, lines 10-28) providing a program counter entry point function to indicate the relative position of each context within the packet.

Art Unit: 2665

5. Regarding claims 5 and 14, Wu teaches (col. 5, lines 29-54) the relative position comprises one of a beginning, middle and end context of the packet.
6. Regarding claim 6, Wu teaches (col. 5, lines 54 – col. 6) processing the context at a source processor of the cluster; communicating an intermediate result relating to processing of the context to a destination processor of a neighboring cluster.
7. Regarding claims 7 and 15, Wu teaches (fig. 2) providing an intercolumn communication mechanism configured to forward the intermediate result from the source processor.
8. Regarding claim 11, Wu teaches (col. 1, line 58 – col. 2, line 14) a system for striping packets across pipelines of a processing engine within a network switch, the processing engine having a plurality of processors arrayed as pipeline rows and columns embedded between input and output buffers (fig. 2), comprising: a context memory within each pipeline row, organized as a plurality of window buffers of a defined size (col.1 lines 58-61); a segmentation unit adapted to apportion each packet into contexts for processing, corresponding to the defined size associated with each window buffer (col. 1, lines 61-66); and a mapping mechanism configured to correlate each context with a relative position within the packet to thereby facilitate reassembly of the packet at the output buffer while obviating out of order issues involving the context of the packet (col. 1 line 66- col. 2, line 14).

Art Unit: 2665

9. Regarding claim 16, Wu teaches (col. 1, line 58 – col. 2, line 14) a computer readable medium containing program instructions for striping packets across pipelines of processing engine within a network switch, the processing engine having a plurality of processors arrayed as pipeline rows and columns embedded between input output buffer (fig. 2) each pipeline row including a context memory, comprising: organizing the context memory as a plurality of window buffers of a defined size (col.1 lines 58-61); apportioning each packet into contexts corresponding to the defined size associated with each window buffer (col. 1, lines 61-66); and correlating each context with a relative position within the packet to thereby facilitate reassembly of the packet at the output buffer, while obviating out-of-order issues involving the contexts of the packet (col. 1 line 66- col. 2, line 14).

10. Regarding claim 21, Wu teaches (col. 1, line 58 – col. 2, line 14) an electromagnetic signal propagation on a computer network carrying instructions for striping packets across pipelines of processing engine within a network switch, the processing engine having a plurality of processors arrayed as pipeline rows and columns embedded between input output buffer (fig. 2) each pipeline row including a context memory, the processors and context memory organized as a cluster, comprising: organizing the context memory as a plurality of window buffers of a defined size (col.1 lines 58-61); apportioning each packet into contexts corresponding to the defined size associated with each window buffer (col. 1, lines 61-66); and correlating each context with a relative position within the packet to thereby facilitate reassembly of the packet at

Art Unit: 2665

the output buffer, while obviating out-of-order issues involving the contexts of the packet (col. 1 line 66- col. 2, line 14).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 3, 8, 17 and 19 rejected under 35 U.S.C. 103(a) as being unpatentable over Wu in view of Sindhu.

Art Unit: 2665

14. Regarding claims 3 and 17, Wu teaches (figure 2) sequentially passing the contexts to the clusters; and storing the contexts in appropriate window buffers of the context memories.

15. Wu does not teach segmenting the packets into fixed sized contexts at the input buffer.

16. Sindhu teaches (col. 6, lines 58-65) dividing the received packets into fixed length cells. It would have been obvious to one of ordinary skill in this art to adapt to Wu's system Sindhu's concept of dividing the packets into fixed length cells to make the system more efficient.

Allowable Subject Matter

17. Claims 9, 10 and 20 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

18. Any inquiry concerning the communication or earlier communications from the examiner should be directed to Roberta Stevens whose telephone number is (703) 308-6607. The examiner can normally be reached on Monday through Friday from 9:00 am to 5:30 p.m.

Art Unit: 2665

19. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor can be reached on (703) 308-6602.
20. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 305-3900.
21. **Any response to this action should be mailed to:**
- Commissioner of Patents and Trademarks
- Washington, D.C. 20231
- or faxed to:** (703) 872-9306
- For informal draft communications, please label "PROPOSED" or "DRAFT"
- Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA. Sixth Floor (Receptionist).

Roberta A. Stevens

Patent Examiner

07-09-04



STEVEN NGUYEN
PRIMARY EXAMINER